ISSN 1822-8011 (print)
ISSN 1822-8038 (online)
INTELEKTINĖ EKONOMIKA
INTELLECTUAL ECONOMICS
2011, No. 1(9), p. 99–116

THE BOUNDARIES OF INTELLECTUAL PROPERTY VALUATION: COST, MARKET, INCOME BASED APPROACHES AND INNOVATION TURNOVER

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Summary. Purpose—To invest in intellectual property and disclose it, internally and externally, is a strategic decision towards the creation of a sustainable value added, at a firm or even at a macroeconomic level. The multiple insights achieved reinforce the paradigm that intangibles are the main structural support for economic growth. However, those intangibles should be measured on a feasible basis towards the business comprehensiveness as required by main accounting standards. Companies and countries should monitor and report their innovation cycles in order to increase their turnovers.

Design/methodology/approach—Based on intellectual property literature review and on data provided by *Eurostat*, regarding the investment intensity in research and development (R&D), we focused on the developments occurred in Europe, for the period 1998-2007. Discussion around measurement approaches were also stated out. We searched for a practical interaction between the number of patents effectively registered in the main international offices and its innovation turnover rate. At a macroeconomic level, the intensity of R&D investment is managed as a key issue which still drives the asymmetries between nations and regions.

Originality—An overview is provided concerning innovation expenditures and its contribution to the intellectual property standards. Discovering and learning about intellectual property can reflect the companies and nations adaptive capacity, both internally and externally. However, the goal set out in the Lisbon's strategy for 2010, is not aligned with the year-to-date innovation turnover rates.

Findings—Given the strong intensity and consistency in allocating resources (and their spillovers), to invest in R&D stands for the most intensive step towards an integrated intellectual property scorecard reporting. The income based approach is the one that better matches the true return of innovation. At a macroeconomic level, Europe is still driving innovation through an idiosyncratic policy on the way to a theoretical convergence and tenuous innovation turnover standard.

JEL Clasification: M10; M20; M40.
Keywords – intellectual property, intangibles, financial reporting, innovation. measurement
Raktiniai žodžiai – intelektinė nuosavybė, nematerialusis turtas, finansinis atsiskaitymas, inovacijos, matavimas.

1. Introduction

Intangible assets are an important source of business value and are not generally included in the standard financial reporting. Several models have been developed and applied in order to better monitor these resources, particularly intellectual capital reports (Edvinsson and Malone, 1997), complementary financial reports and scoreboards (Eurostat, 2010; Lopes, 2010; Lev, 2001) or *Balanced Scorecard*® programs (Kaplan and Norton, 1996). Broadly, intangibles are non-monetary resources, without physical substance, but embodying relevant future economic benefits (International Accounting Standard n.º38 or Statement of Financial Accounting Standards n.º157). The disclosure of these resources can mitigate information asymmetry and improve market liquidity (Boone and Raman, 2003:360).

According to IAS 38, intangibles should be recognized in the financial statements as intangibles assets if they can be separately identified from other aspects of the business, if its use is controlled by the owner as a result of past events and actions, if future economic benefits exist that flow for the company and if they can be measured on a feasible basis. Intellectual property (IP), as a whole, typifies the most visible side of those resources as embodiment of the integrated research and development effort. However, business and market developments require their valuation and disclosure through additional reports as well as continuous diagnoses of their real benefits and returns.

This paper aims to highlight the scope of intangible resources as key drivers in the value creation process and economic growth, and to identify their main categories, their measurement and disclosure approaches. It also aims to emphasize the need to monitor the micro and macroeconomic innovation effort and diagnose its linkage with business returns. Innovation turnover analysis constitutes a basic approach about intellectual property as a key driver towards better strategic and financial performance achievements.

2. Intellectual property measurement and valuation

Several approaches have been followed towards intangibles identification, measurement and disclosures. Multiple categories were identified (e.g. through Edvinsson's approach in the *Skandia Navigator* framework), in particular human capital, structural capital, renewal capital and relational capital (Edvinsson and Malone, 1997). However, those resources are identified as knowledge assets in the economic theory, as intellectual capital in the management focus and as intangible assets from an accounting point of view.

Intellectual property (patents, trademarks and copyrights, among others), have been seen by economic agents as no more than legal instruments or as basic tools for business. Many companies have explored this type of asset, managing it as a potential competitive weapon and source of unexpected returns (Germeraad, 2010; Taghaboni-Dutta *et al.*, 2009; Ramanatyhan *et al.*, 2001; Rivette and Kline, 2000; Shapiro and Varian, 1999). Intellectual property management has been reflected in the way value added has been created. We refer to registered IP, codified or uncodified organisational and human capital (Contractor, 2001). And, as mentioned by Germeraad (2010), IP strategy should be strongly integrated with innovation strategy.

The identification of competitive advantages emerging from IP claims for to identification of certain key drivers, namely research and development expenditure ratios and innovation processes inside the organizations. These drivers allow companies to gain competitive advantages in market and in financial terms. According to Rivette and Kline (2008:58-60), investing in IP allows companies to increase their expected future returns and, aligned with other structural capital, allows companies to achieve important strategic and financial returns (Edvinsson and Malone, 1997). Its translation into competitive advantage can:

- Protect core technologies and business methods;
- Tap patents for new revenues;
- Boost research and development and branding effectiveness;
- Anticipate market and technology shifts
- Reduce costs; and
- Attract new capital and enhance corporate value.

This assertion, broadly irrefutable, is gradually being assumed as a strategic principle, drawing our attention to internal innovation activities and processes. Measuring it is not an easy or feasible task. Several methods have been followed in order to complete that task: approaches based on income or in market or, at least, measured at its historical cost. The expected returns still remain the most important corollary, enabling companies to include those assets in their financial statements, unless, as sometimes, they are used, only for internal purposes. However, uncertainty about intangibles benefits ant the way organizations capture their potential return can not be ignored or set out as unmanaged organizational drivers. Organizational creativity processes are strongly embodied in innovation efforts. As referred by Lev (2001:37):"*Intangibles such as R&D, human capital, and organizational assets are the major inputs into firms´ innovation or creativity processes. While our understanding of the origins, drivers, and circumstances conducive to innovation process is in its infancy, it is widely recognized that innovation is highly risky relative to other corporate activities, such as production, marketing and finance."*

Models based on cost

The cost-based approach has in its core the concept of cost, in particular the book cost or the current replacement cost. Book cost (also mentioned as reproduction cost) refers to the expenditures associated with the construction or acquisition of an

exact replica (disregarding the existence of any active markets and competition) of the intangible asset. The replacement cost takes into account the expenditures associated with acquisition or recreation. This approach tries to restore the level of satisfaction despite its inherent subjectivity, adjusted for obsolescence whether physical, functional or economic.

In the cost approach, several components should be identified: raw materials, manpower, overheads, and other costs. As mentioned before, obsolescence should be deducted from its gross value in order to reflect its true value (note that replacement cost follows the assumption that service capacity of the assets should be restored). Reilly and Shweihs (1999:99) identify four types of amortization: 1) Physical deterioration resulting from its use or destruction; 2) Functional obsolescence, associated with the assertion that asset no longer fulfills its original function and therefore it may represent an important source of market loss position; 3) Technological obsolescence, also considered a particularization of functional obsolescence, it arises when original function is no longer desirable according technological developments; 4) Economic obsolescence (also mentioned as external obsolescence), it results from purely external factors extraneous to the intangible asset itself. Using original cost to measure intangible assets often misses the web of complementarities that adds value to intangibles (Cohen, 2005). Fair value, as a concept derived from the market or income approaches, does not capture key value sources that effectively contribute for sustainable companies' returns.

Models based on market price

This approach commonly uses prices of market transactions involving identical (level 1) or similar (level 2) assets or liabilities as established in the fair value hierarchy. Through this pricing methodology, two categories of procedures are normally followed (Cohen, 2005; Reilly and Shweihs, 1999): based on data collection about transactions made in an active market (by selling or by licensing) or by accessing the market conditions which may influence the price level. This is a complex analytical process in which old concepts (e.g. acquisition or replacement cost, depreciation and amortization, etc.) are not ignored. The foundations towards price level fixing are also based on cost or in revenue approaches.

The application of this approach is made through a systematic process that, according to Reilly and Shweihs (1999:102-103), is developed into eight distinct steps: 1. Collection and selection of market data (in this step several factors must be taken into account as market efficiency, timing, adequacy of the intangible asset market and the relevance of that specific market. Type of intangible assets, their use, industry in which asset performs its function, expected date to consummate the transaction should be also considered); 2. Classification of selected data (in this stage, it is important to identify whether comparable data was obtained or if, indeed, treat data obtained only supports a specific transactional orientation); 3. Verification of selected data (checking data consistency namely if data results from multiple market considerations and if those prices apply only to situations of actual sales, licensing

processes or even to other transfer transactions); 4. Selection the measurement model used in comparisons (data translation in equivalent units such as the price per customer, per contract, per subscriber, per line of code, by brand, per employee, per patent, by formula. These examples are associated with a broader intangible assets categorization as intangible assets related to customers, to data processing and technologies, to markets, to human capital or to intellectual property); 5. Quantification of multiple pricing (the main objective in this stage is to achieve a common denominator); 6. Adjustments to multiple price (at this stage, we seek for differences in market conditions as well as for mitigation of systemic changes deriving from market dynamics); 7. Application of multiple prices (translation process of the adjusted prices according the units that actually reflect the better comparison achieved. It is, in fact, a standardization process used in comparables analysis); and 7. Reconciliation of values (this step is the measurement of strengths and weaknesses associated to the quantity and quality of the entire process, the magnitude of adjustments and their relative importance). Market multiples pricing approach is quite interesting in the measurement of intangibles assets (Cohen, 2005; Koller *et al.*, 2005), especially for intangibles included in the second level of fair value concept. It can be applied for commodities and assets with attributes easily delineated and actively traded.

Models based on expected returns

The key assertion for this approach states that intangible assets value is the present value of their future economic returns (possible cash flows discounted at a risk-free rate), managed by its owner or keeper. The discount rate required to estimate de present cash flows, associated with the income forecasting techniques, is strongly imbued of risk and uncertainty (Mard *et al*., 2007, Cohen, 2005; Reilly and Schweihs, 1999). In order to mitigate that risk, several models have been followed by financial analysts such as the capital asset pricing model (CAPM), arbitrage pricing theory (APT) or the *Fama-French* Three Factor Model.

To achieve unbiased expected cash flows for a particular intangible asset is not a feasible and reasonable task. Intellectual property normally produces indirect cash flows deriving from the entire business and not from a particular asset. It applies for patents, trademarks, brands, except in the particular case of their external licensing. Depending of the industry, and behind the inexistence of an active market, those outcomes are not duly assigned to probabilities defined on a feasible basis.

These valuation approaches are strongly marked by current market expectations and, derived from that, a deep subjectivity in the cash flows forecasting. Techniques such as option-pricing models, binomial models, or the multi-period excess earnings model (as also stated in SFAS 157), can be used to measure the gross income, the net operating income, the net income after taxes, the operating cash flow, the net cash flow, among others. However, measures based on cash flows should be applied because they are not influenced by accounting operations that do not originate any monetary flows such as amortizations, provisions and other non-monetary adjustments.

The intangibles reporting paradigm

The issues surrounding the non-inclusion of intangibles in the companies' financial reports, despite its importance for investors in their investment decisions seems unquestionable (Griggs, 2008; Mard *et al.*, 2007; Blair and Wallman, 2003; Lev and Zarowin, 2003).

Traditionally, the economic and financial developments around intangibles have been focused on finding measures that might translate into monetary units their potential returns. In some cases, the valuation process seems linear (e.g. development expenditures), in other cases its measurement cannot be achieved on a feasible basis. Therefore, alternatives to monitor and to disseminate them are required (Sveiby, 1997) such as intellectual capital reports or some types of scoreboards.

Blair and Wallman (2003) refer to the fact that traditional models of accounting are devoid of usefulness within the intangibles because they were designed and directed to the registration of discrete and sequential facts as well as evidence of its cumulative effects. It turns out that the major impact of intangibles is not consistent with this discrete and sequential impact, but rather results from the combined effect of investment in other types of assets (tangibles and other intangibles). A copyright or trademark (Seethamraju, 2003; Gobeli *et al.*, 2001), expenditures on research and development (Boone and Raman, 2003; Chan *et al.*, 2003; Neil and Hickey, 2001), an alliance (Inkpen and Madhok, 2001), a license (Aulakh, 2001), investments in workforce (King, 2001), Goodwill (Arnold *et al.* 1992), have a total permeability to a discrete nature and behavior. Moreover, those examples embody strong synergy effects, also embodying the creation of economic value added, an indicator in itself that reflects the consolidated and sustainable competitive advantage.

The financial statements, in the narrow sense, include the company's book value +/- difference in the fair values of assets and liabilities recognized +/- the fair values of assets and liabilities that do not meet the criteria of intangible assets and therefore are not recognized (e.g. patents developed internally through research and development processes). In a broad sense (we assume the concept of integrated financial reporting), and according IAS 38 and SFAS 157, additional information disclosures are required in order to comply with business and operations comprehensiveness: fair values, impairment fluctuations, valuation methods, opportunities, risks and even economic psychology factors. This report would result in a special disclosure approach that indicates, in some cases, the entire market capitalization.

It seems that the linear approach identified above, is provided towards the convergence and alignment with international accounting standards, particularly with regard to the business comprehensiveness (Griggs, 2008; Davison, 2008; Abdelsalam *et al.*, 2007). Traditional financial statements do not reflect, on a feasible basis, the key value drivers. The search for non-financial metrics (indices, ratios, counts) may be an interesting approach in order to improve the financial reporting and its usefulness for stakeholders (Lopes, 2010; Griggs, 2008; Abdelsalam *et al*., 2007, Roos *et al.,* 1997; Edvinsson and Malone, 1997).

In order to underline the main limitations of traditional financial statements, a set of prepositions should be mentioned:

1. The orientation of traditional financial statements solely for historical aspects and whose value emerges only from the assets and liabilities actually recorded;
2. The fact that the drivers of value are essentially non-financial and thus not filed in financial reports;
3. Intangible assets are not recognized in financial statements when internally generated;
4. Financial reports are prepared especially for specific purposes, in particular fiscal purposes.

Lev and Zarowin (2001:488) highlight the decline of the reporting based on the results in cash flows and asset values for supremacy of other activities, generally linked to investments in intangibles, particularly in research and development, information technology, brands and human resources. Those authors show that investments in intangibles, particularly the research and development disbursements, are considered the major drivers of innovation and hence the change in business embodied in the creation of new products, franchises and process improvements. This approach contradicts the guidelines provided by IAS 38: research costs are fully charged to the income statement, but development is capitalized and amortized, with associated cash flows shown as investing activity. However, and according US GAAP treatment, research and development costs are all expensed, related cash flows are recognized in operating activities.

Lev`s research (2001), in particular its value chain scoreboard, has played an important role in the extensive discussion around the limitations of traditional accounting systems and financial reporting. In this scoreboard, nine categories of intangibles are identified. In fact, the main key drivers are included in those categories and can contribute to value creation through a cause and effect chain (Three phases approach: 1. Discovery and learning; 2. Implementation; and 3. Commercialization). The comprehensiveness and relevance of financial statements should be improved through an integrated analysis of economic and technological aspects, namely the intellectual property.

The first phase—*Discovery and Learning*—is actually the base, because they reflect the adaptive capacity both internally and externally and therefore represent the beginning of the value chain. Due to the strong intensity and consistency required in allocating resources (and consequent spillovers), this phase represents the pillar/more intensive step. The second phase—*Implementation*—reflects the true conversion of knowledge (Nonaka and Takeuchi, 1995) by the technological reliability of products, services and/or processes under development. In our opinion, the greater risk mitigation is achieved in this phase. The third and final phase—*Commercialization*—represents the realization of the innovation process, materialized and translated into financial and non-financial returns, particularly in terms of reputation and recognition. Thus, when such return exceeds the cost of capital, the organization creates value (Parmenter, 2007; Kaplan and Norton, 1996).

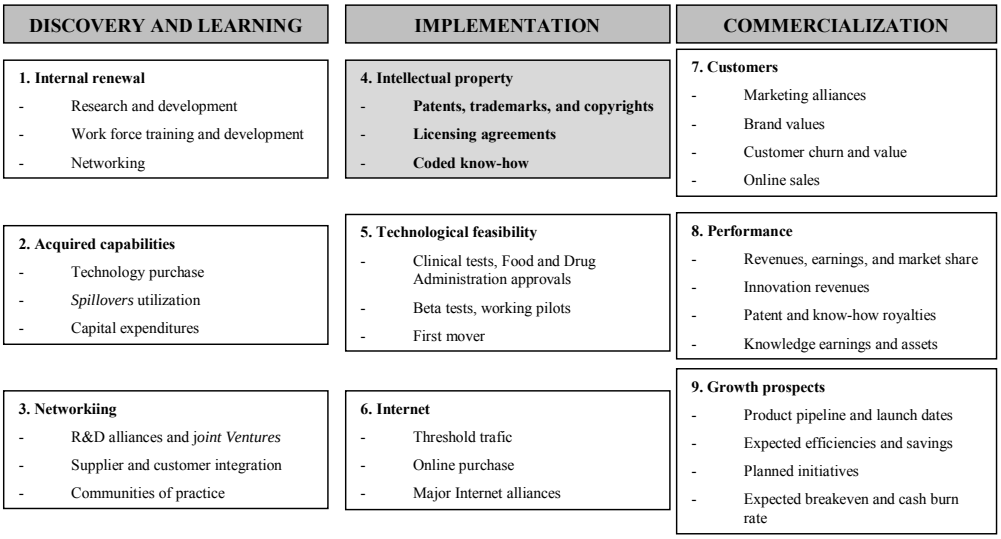


Figure 1 – Lev´s value chain scoreboard
Source: Lev (2001:111)

In a complementary research (Lopes, 2010), and derived from Lev's approach, we have proposed a complementary reporting for intangibles, designed for the Portuguese airlines sector. In this approach, all the intangibles identified were aggregated in eight key categories (Internal Renewal; Acquired Capabilities; Alliances and Networks; *Intellectual Property*; Technical Strengths; Customers; Performance; Growth) in order to contribute for a better information management system. This scorecard includes quantitative (e.g. development investments, turnovers' ratios, reputation indices, market shares, copyrights valuation, etc) and qualitative (slots, code-share agreements, exclusive routes use, air routes control, investments in safety and security systems, etc.) data. Those categories should complement the traditional financial reporting system towards a better business comprehensiveness as required by the IAS in its conceptual structure.

As already mentioned, the scope of international accounting standards about intangibles recognition seems quite tight. IAS 38 and SFAS 157 establish a framework for making fair value measurements but require additional disclosures about the measurements made (e.g. where intangibles are carried out using the revaluation model, companies must disclose the effective date of the revaluation, the carrying amount of the assets, and what their carrying value would have been under the cost model, the amount of revaluation surplus applicable to the assets and the significant assumptions used in measuring fair value).

INTERNAL RENEWAL	Databases internally developed Preventive maintenance programs Quality management systems Service innovation capabilities Organizational culture Management systems Restructuring expenses	Licenses and certificates Commercial secrets legally protected Non-commercial secrets legally protected Databases externally acquired Software externally acquired Teamwork capabilities Training programs – pilots Training programs – Cabin crew personnel Training programs – Aircraft maintenance Training programs – Land assistance Maintenance technical reputation Other Human Resources capabilities Non competitiveness agreements Slots (landing and takeoff permanent rights) Traffic rights Safety and security programs	**ACQUIRED CAPABILITIES**
ALLIANCES AND NETWORKS	Strategic alliances between airlines companies National commercial agreements between airlines companies European Union commercial agreements between airlines companies Non Europe commercial agreements between airlines companies Special suppliers' relations Special franchises' relations Special customers' relations Publicity and promotion agreements	**Patents** **Copyrights** **Commercial brands and trademarks** **Non-commercial brands and trademarks** **Publicity rights** **Registered design** **Research and development expenses**	**INTELLECTUAL PROPERTY**

TECHN. STREN.	Software internally developed Electronic reservation systems On board mobile communication facilities	E-ticketing Frequent flyer programs Customer satisfaction programs Customer retention programs	**CUST.**
PERFORMANCE	Service reputation Institutional reputation Crews reputation Accident score image Goodwill/Negative Goodwill	Code-share agreements Air routes control and privileges Exclusive air routes use Local geographical agreements Airport special rights (hangars use, etc.) Franchise agreements	**GROWTH**

Figure 2 – Complementary intangibles reporting
Source: Adapted from Lopes (2010:31)

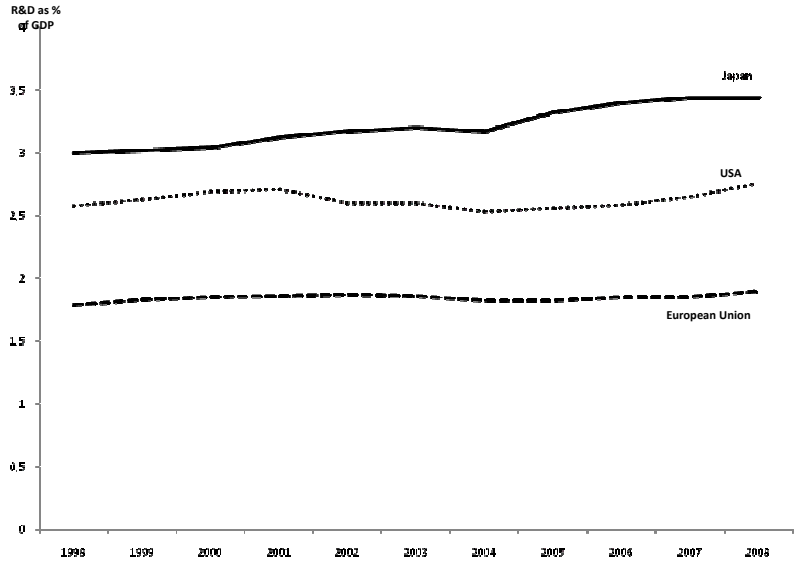
Our concern is more than an accounting approach. It constitutes a quantitative and qualitative data disclosure for intangible resources that can contribute for strategic and financial achievements. The set of intangibles shown in figure 2 provides the relevant information for a wide variety of companies but specific value chain indicators (e.g. turnovers rates, value added flows, type and level of disbursements made, indexes achievements, counts observed, etc.) must be included and disclosed for each company or industry. We strongly corroborate Lev's (2001:122) assertion about voluntarily information disclosures: "…if a coherent, well-defined, and decision-relevant system is developed to reflect the major attributes of intangible assets and their role in the overall value creation process of the enterprise, most managers will respond by disclosing voluntarily some or all of the information." If the information is voluntarily disclosed, the information asymmetry is really minimized and stakeholders can more easily support their own decisions.

Innovation is a process of value creation, both for businesses and entire nations and regions. A decade ago, in Lisbon, European Union (EU) has fixed ambitious goals relating to innovation. However, the intensity instilled in innovation process depends on integrated policies (European and national policies) towards sustainable turnovers standards. The European macroeconomic scenario trend has caught for now those goals achievements.

3. Innovation as the core activity for sustainable turnover

At a macroeconomic level, the intensity of research and development (R&D) investments also typifies a key innovation indicator that induces competitive advantages between nations or regions. In the last decade, in Europe, moderate increases

have been observed, particularly in the business enterprise sector. As stated by European Union in the Lisbon's strategy, EU members should increase its R&D expenditure to at least 3% of GDP in 2010 (average, in 1998: 1,4% of GDP). This type of expenditure is seen, in this scope, as the creative work developed on a systematic basis in order to achieve higher standards of knowledge by the business enterprise sector. However, among those states above the European average, the Nordic countries have been the leaders with regard to the intensity of R&D (% of GDP), both in the business enterprise and public sectors (e.g. in higher education institutions). As regards, the poor levels observed in the other countries, in particular for the ones that have joined the European Union in the last decade, new and stronger macroeconomic policies are required, that, in the medium and long run, can support the new business models development and generate increased competitive advantage.



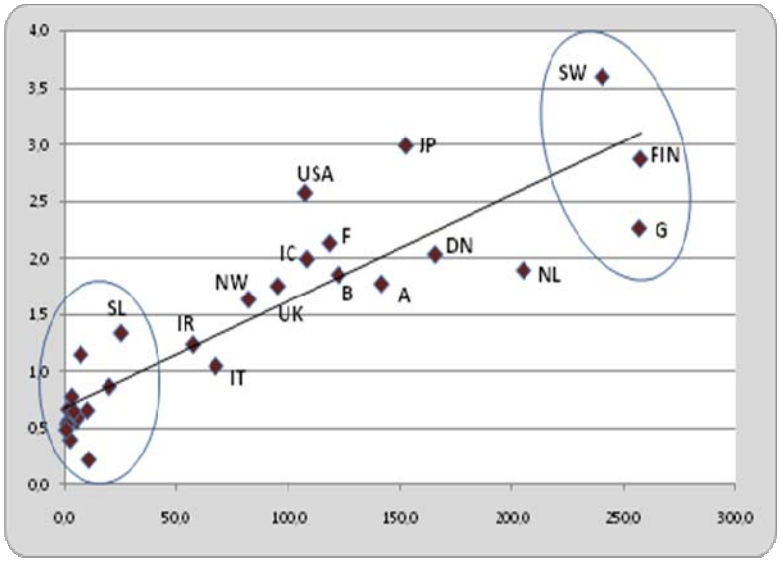
Graph 1 – R&D intensity in Europe, USA and Japan (1998-2008)

Patent registration is, probably, the most visible indicator of innovation management. According to Willigan (2001:35): "Companies wishing to exploit their intellectual assets may wish to establish an incentive program for scientists and engineers to direct and motivate their invention activity. The objectives of such an incentive program are to channel invention activity into areas where the current patent portfolio needs improvement and to identify areas of future technology that companies need to 'play in' in order to be successful in the "knowledge-based" world of the future."

Patent applications refer to the requests for legal protection, directly submitted to the European Patent Office (EPO) or carried out under the patent Cooperation Treaty,

independently of their acceptance. Registrations are allocated to the country of the inventor except in the case where more than one country is involved. A fractional method of counting is used in this particular case. This indicator also grants a simplistic overview of the European scenario about the real trend towards the strategy implementation as stated in Lisbon, in 2000.

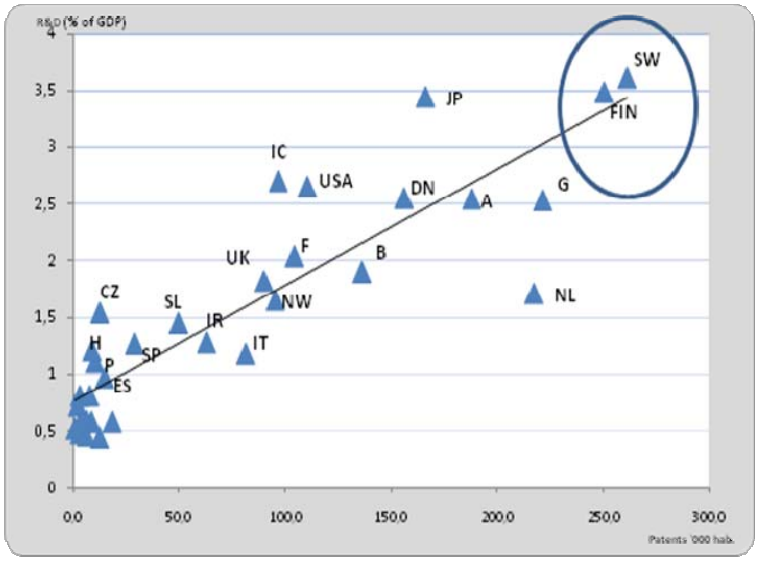
At a microeconomic level, IP should be measured and disclosed through complementary business reports. Patents, copyrights, internal software developments, brands and even strategic alliances, are enablers of business protection and source of granted returns. Graph 2 indicates the correlation between R&D intensity and patent registration in the beginning of this century.



Graph 2 – R&D intensity (% of GDP) and number (#) of patent registrations – 1998

Sweden and Finland led the European scenario as they have submitted, in 1998, per million inhabitants, approximately 237 and 231 requests, respectively (average of 78,5 with a standard deviation of 85,1). We note the same trend if we refer to the requests submitted to the EPO by country in 2007 (298 and 251 requests were registered by Sweden and Finland, respectively). The United States of America (USA) and Japan (JP) lead the patent registrations, per million inhabitants, in the USPTO. Similar results were evidenced by Lopes *et al.*, (2005).

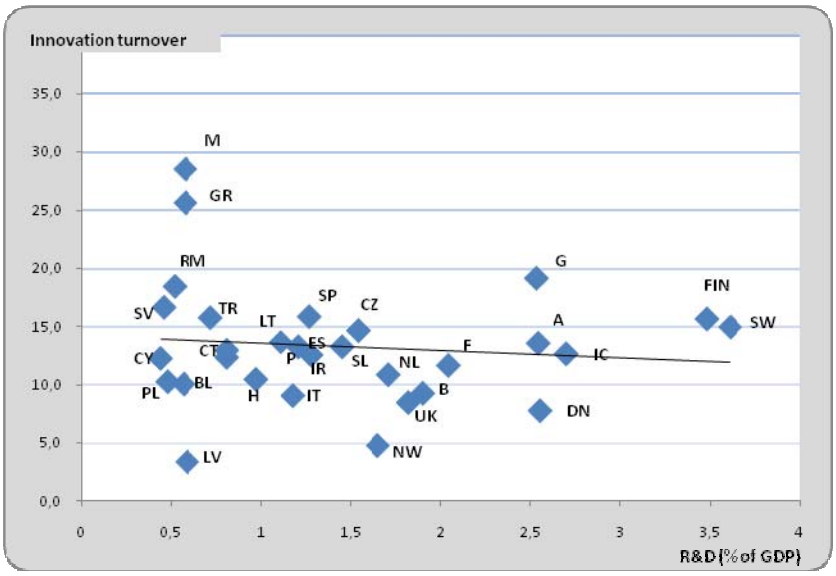
As expected, both in 1998 and in 2007, we found a statistical significant correlation between R&D investments and patents registered in the international offices (overall adjusted R^2 above 88%). These results are aligned with the assertions stated by Taghaboni-Dutti (2009). Patent analysis can be used to monitor some trends in order to understand the innovative activities developed inside the organizations, diagnose the internal weaknesses and strengths and interpret the market demand.



Graph 3 – R&D intensity and patent registrations – 2007

If we compare the information stated in graphs 2 and 3, the European scenario did not change significantly, since 1998. Research and Development ratio has not increase, far away form the goal stated, from European Union, for 2010. The supremacy of the Nordic countries (FIN and SW), USA and Japan becomes clear. Other European countries, in particular the last ones that have joined the European Union, still present weaknesses that require technological innovation policies and procedures if they are to achieve a fair and sustainable alignment. Without these developments, we shall continue to face the difficulties arising from a Europe developing at different speeds. Moreover, potential competitive advantage may be gradually and permanently lost in the digital and global economy.

Concerning the effectiveness of R&D intensity, we did not achieve a significant correlation between those expenditures and turnover from innovation (adjusted R^2 of -0,107). Turnover from innovation ratio indicates the % of total turnover derived from new products and services totally new for the market (it occurs when a new or significantly improvement was introduced in product/service or in a process). This result seems consistent with evidences achieved by Chan *et al.* (2003) relating to the stock market valuation derived from R&D expenditures. In fact, the evidence achieved does not support a direct link between R&D expenditure (and even other intangibles as advertising) and future returns. Different evidences were obtained by Lev and Sougiannis (1996) relating insider gains. These gains in R&D intensive companies are significantly higher than insider gains obtained in firms not strongly engaged in innovation expenditures. However, and as mentioned by Boone and Raman (2003), the disclosure of innovation activities can contribute for the asymmetry information mitigation and liquidity rates, despite their poor impact in the company's periodical revenues.



Graph 4 – Innovation turnover

When an analysis between innovation expenditures and turnovers rates is carried out, some prudence should be considered: 1. Turnover ratios are normally obtained through survey. Companies only account and disseminate direct turnover. Intellectual property has primarily an indirect impact in the businesses turnover, except if royalties exist from its licensing agreements; 2. Research expenditures are not capitalized. They are directly allocated to the income statement, affecting negatively the period profit and loss financial statement; 3. Significant gaps exist between R&D expenditures and turnover effectiveness. Innovation cycle is, in some cases, structurally long; 4. Several weaknesses exist in the patents effectiveness. Major part of patents registered in the national or international offices never produce any return; 5. Innovation culture is not strong enough to ensure higher turnover ratios. Further investigation is required in this topic in order to evidence the real weaknesses in the innovation effectiveness process.

In the European scenario, the turnover derived from innovation seems quite residual, except in some countries with poor rates of innovation intensity. Probably, the cycle of innovation and its impact in the financial statements will take a long time to become effective. Or, the innovation effort is only the way ahead to achieve a strategic and leadership positioning.

4. Final remarks

The intangible asset concept is, according international accounting and financial standards, associated with expected future returns. It is viewed as an identifiable non-

monetary asset without physical substance, controlled by companies and viewed as source of future returns. Their measurement and valuation process is normally based on costs, on market prices or on expected incomes. Additional disclosures about intangibles are required by stakeholders in order to mitigate the information asymmetry. Complementary reports can be the way ahead to achieve the business comprehensiveness as required by international accounting standards in their conceptual frameworks.

Intellectual property is probably the most visible source of intangible assets, namely the patent registration effort, supported by the intensity of research and development disbursements. This evidence is consolidated at a later date by the number of patents effectively registered and granted by the international agencies. Innovation management is, therefore, a source of competitive advantage for national economies in general and for the business sector in particular. However, especially in Europe, we have a lack of innovative ideas and innovation effectiveness that will lead to broad application-based patents. The European evidence in those domains clearly indicates the need for additional macroeconomic policies towards a sustainable European knowledge economy. The European scenario did not change, in substance, between 2000 and 2008 and the trend observed indicates that the Lisbon's goal for R&D in Europe was not achieved.

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INTELEKTINĖS NUOSAVYBĖS VERTĖS NUSTATYMO RIBOS: KAINA, RINKA, PAJAMOMIS GRĮSTAS POŽIŪRIS IR INOVATYVI APYVARTA

Ilídio Tomás LOPES

Santrauka. Straipsnyje nagrinėjamas investavimas į intelektinę nuosavybę kaip strateginis žingsnis tvarios pridėtinės vertės kūrimo link įmonės ar net visos šalies makroekonomikos lygmeniu. Skirtingos įžvalgos paskatino pagrįsti nematerialiojo turto kaip pagrindinis struktūrinės pagalbos ekonominiam augimui paradigmą. Vis dėlto, atsižvelgiant į verslo visapusiškumą, nematerialusis turtas turi būti matuojamas pagrįstais metodais, paisant pagrindinių apskaitos standartų. Bendrovės ir šalys turi vykdyti monitoringą bei teikti inovacijų ciklų ataskaitas, kad būtų padidinta apyvarta.

Remiantis literatūros intelektinės nuosavybės klausimais analize bei Eurostato investavimo intensyvumo į tyrimus bei plėtrą duomenimis, šiame straipsnyje apžvelgiama 1998–2007 Europoje vykusi plėtotė. Pateikiama nuomonė matavimo metodų klausimu. Buvo ištirta praktinė efektyvių tarptautiniuose centruose registruotų patentų skaičiaus ir šių inovacijų apyvartos lygio sąveika. Tyrimų ir plėtros intensyvumas makroekonominiu lygiu daro įtaką asimetrijai tarp šalių ir regionų. Straipsnyje pateikta inovacijų sąnaudų ir jų įnašo į intelektinės nuosavybės standartus apžvalga. Gebėjimas atrasti ir įsisavinti intelektinę nuosavybę atspindi kompanijos ir valstybės adaptavimosi tiek viduje, tiek išorėje galimybes. Kita vertus, 2010 m. Lisabonos strategijoje iškeltas tikslas neatitinka aktualių inovacijų apyvartos proporcijų (YTD).

Atsižvelgiant į išteklių (ir jų pertekliaus) paskirstymo intensyvumą ir darną, investavimas į tyrimus ir plėtrą yra integruotos intelektinės nuosavybės apskaitos intensyviausias kūrimo žingsnis. Pajamomis paremtas požiūris - vienas tų, kuris geriausiai atspinti tikrąją inovacijų grąžą. Makroekonominiu lygmeniu, Europoje inovacijos vis dar vystomos remiantis išskirtine politika teorinės konvergencijos ir inovacijų apyvartos stiprinimo standartų srityje.

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